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IN THE CLAIMS

Please replace the claims in the present application with the following listing of claims:

1. (Currently Amended) A method of processing packets for transmission over a satellite communications network, the method comprising:

receiving a packet associated with an application from a host;

classifying the packet into one of a plurality of transport services based upon the corresponding application and at least one classification rule associated with the application; and

mapping the one transport service to one of a plurality of packet delivery services, wherein the packet is stored in a queue that is mapped to the one packet delivery service, and is assigned a service weight, and the packet is scheduled for transmission based on the mapping of the queue to the one packet delivery service and the service weight.

~~the one packet delivery service provides transmission of the packet over the satellite communications network.~~

2. (Original) The method according to Claim 1, wherein the classifying step comprises:

determining the application associated with the received packet based upon header information of the received packet, wherein the header information includes at least one of source address, destination address, source port, destination port, and type of service information.

3. (Currently Amended) The method according to Claim 1, wherein the application exhibits at least one of a constant traffic pattern, bursty traffic pattern, and a combination thereof, and the transport services at least one classification rule being predefined according to the traffic pattern of the application.

4. (Original) The method according to Claim 3, wherein the transport services include a constant rate service for supporting the constant rate traffic, a constant rate with burst service for supporting the combination of the constant traffic and the bursty traffic, a priority burst service for supporting the bursty traffic, and a low volume service for supporting the bursty traffic that is low in volume and requires low latency through the satellite communications network.

5. (Original) The method according to Claim 3, wherein the packet delivery services include rate access for establishing a constant rate communication channel, volume access for establishing a bandwidth-on-demand communication channel, and contention access for establishing a contention communication channel.

6. (Original) The method according to Claim 5, wherein the one transport service is the constant rate service, the method further comprising:
determining whether the received packet exceeds a predetermined committed information rate (CIR);
selectively dropping the packet based upon the determining step; and
utilizing the rate access packet delivery service to forward the packet.

7. (Original) The method according to Claim 5, wherein the one transport service is the constant rate with burst transport service, the method further comprising:
determining whether the received packet is below a predetermined committed information rate (CIR), as measured by a leaky bucket profile;
utilizing the volume access packet delivery service to forward the packet upon determining that the received packet is above the CIR; and
utilizing the rate access packet delivery service to forward the packet upon determining that the received packet is at or below the CIR.

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8. (Original) The method according to Claim 5, wherein the one transport service is the priority burst transport service, the method further comprising:
determining whether an arrival rate exceeds a threshold;
utilizing the volume access packet delivery service to forward the packet if the determined arrival rate exceeds the threshold; and
utilizing the contention access packet delivery service to forward the packet if the determined arrival rate does not exceed the threshold.
9. (Original) The method according to Claim 5, wherein the one transport service is the low volume transport service, the method further comprising:
utilizing the contention access packet delivery service to forward the packet.
10. (Original) The method according to Claim 1, wherein the classifying step comprises:
specifying a default transport service for the one transport service.
11. (Currently Amended) A terminal apparatus for transmitting packets over a satellite network, comprising:
a user interface configured to receive a packet associated with an application from a host;
classification logic coupled to the user interface and configured to classify the packet into one of a plurality of transport services based upon the corresponding application and at least one classification rule associated with the application; and
mapping logic configured to map the one transport service to one of a plurality of packet delivery services, wherein the packet is stored in a queue that is mapped to the one packet delivery service, and is assigned a service weight, and the packet is scheduled for transmission based on the mapping of the queue to the one packet delivery service and the service weight.
~~the one packet delivery service provides transmission of the packet over the satellite network.~~

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12. (Original) The apparatus according to Claim 11, wherein the classification logic determines the application associated with the received packet based upon header information of the received packet, wherein the header information includes at least one of source address, destination address, source port, destination port, and type of service information.

13. (Currently Amended) The apparatus according to Claim 11, wherein the application exhibits at least one of a constant traffic pattern, bursty traffic pattern, and a combination thereof, and the transport services at least one classification rule being predefined according to the traffic pattern of the application.

14. (Original) The apparatus according to Claim 13, wherein the transport services include a constant rate service for supporting the constant rate traffic, a constant rate with burst service for supporting the combination of the constant traffic and the bursty traffic, a priority burst service for supporting the bursty traffic, and a low volume service for supporting the bursty traffic that is low in volume and requires low latency through the satellite communications network.

15. (Original) The apparatus according to Claim 13, wherein the packet delivery services include rate access for establishing a constant rate communication channel, volume access for establishing a bandwidth-on-demand communication channel, and contention access for establishing a contention communication channel.

16. (Original) The apparatus according to Claim 15, wherein the one transport service is the constant rate service, the classification logic being configured to determine whether the received packet exceeds a predetermined committed information rate (CIR), and to selectively drop the packet based upon the determination, the apparatus utilizing the rate access packet delivery service to forward the packet.

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17. (Original) The apparatus according to Claim 15, wherein the one transport service is the constant rate with burst transport service, the classification logic being configured to determine whether the received packet is below a predetermined committed information rate (CIR), the apparatus utilizing the volume access packet delivery service to forward the packet upon determining that the received packet is above the CIR and utilizing the rate access packet delivery service to forward the packet upon determining that the received packet is at or below the CIR.

18. (Original) The apparatus according to Claim 15, wherein the one transport service is the priority burst transport service, the apparatus utilizing the volume access packet delivery service to forward the packet.

19. (Original) The apparatus according to Claim 15, wherein the one transport service is the low volume transport service, the apparatus utilizing the contention access packet delivery service to forward the packet.

20. (Original) The apparatus according to Claim 11, wherein the classification logic specifies a default transport service for the one transport service.

21-50. (Canceled).

51. (New) The method according to Claim 1, wherein the depth of the queue is dynamically configurable.

52. (New) The method according to Claim 1, wherein an order of precedence in which the classification rules are applied is dynamically configurable.

53. (New) The apparatus according to Claim 11, wherein the depth of the queue is dynamically configurable.

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54. (New) The apparatus according to Claim 11, wherein an order of precedence in which the classification rules are applied is dynamically configurable.

55. (New) A terminal apparatus for transmitting packets over a satellite network, comprising:

a user interface configured to receive a plurality of packets associated with a plurality of applications from at least one host;

classification logic coupled to the user interface and configured to classify each packet into one of a plurality of transport services based upon the corresponding application and at least one classification rule associated with the corresponding application; and

mapping logic configured to map each transport service to a packet delivery service, wherein each packet is stored in a queue that is mapped to the packet delivery service associated with the packet, and is assigned a service weight, and each packet is scheduled for transmission based on the mapping of the queue to the associated packet delivery service and the assigned service weight.

56. (New) The apparatus according to Claim 55, wherein the classification logic determines the application associated with each received packet based upon header information of the packet, wherein the header information includes at least one of source address, destination address, source port, destination port, and type of service information.

57. (New) The apparatus according to Claim 55, wherein each application exhibits at least one of a constant traffic pattern, bursty traffic pattern, and a combination thereof, and the at least one classification rule associated with each application being predefined according to the traffic pattern of the application.

58. (New) The apparatus according to Claim 57, wherein the transport services include a constant rate service for supporting the constant rate traffic, a constant rate with burst service for supporting the combination of the constant traffic and the bursty traffic, a priority burst service for supporting the bursty traffic, and a low volume service for supporting the bursty traffic that is low in volume and requires low latency through the satellite communications network.

59. (New) The apparatus according to Claim 57, wherein the packet delivery services include rate access for establishing a constant rate communication channel, volume access for establishing a bandwidth-on-demand communication channel, and contention access for establishing a contention communication channel.

60. (New) The apparatus according to Claim 59, wherein for each packet classified to the constant rate service, the classification logic being further configured to determine whether the packet exceeds a predetermined committed information rate (CIR), and to selectively drop the packet based upon the determination, and the apparatus utilizing the rate access packet delivery service to forward the packets.

61. (New) The apparatus according to Claim 59, wherein for each packet classified to the constant rate with burst transport service, the classification logic being further configured to determine whether the packet is below a predetermined committed information rate (CIR), the apparatus utilizing the volume access packet delivery service to forward the packet upon determining that the packet is above the CIR and utilizing the rate access packet delivery service to forward the packet upon determining that the packet is at or below the CIR.

62. (New) The apparatus according to Claim 59, wherein for each packet classified to the priority burst transport service, the apparatus utilizing the volume access packet delivery service to forward the packet.

63. (New) The apparatus according to Claim 59, wherein for each packet classified to the low volume transport service, the apparatus utilizing the contention access packet delivery service to forward the packet.

64. (New) The apparatus according to Claim 55, wherein the classification logic specifies a default transport service for each of the transport services.

65. (New) The apparatus according to Claim 55, wherein the depth of each queue is dynamically configurable.

66. (New) The apparatus according to Claim 55, wherein an order of precedence in which the classification rules are applied is dynamically configurable.

67. (New) A method of processing packets for transmission over a satellite communications network, the method comprising:

receiving a plurality of packets associated with a plurality of applications from at least one host;

classifying each packet into one of a plurality of transport services based upon the corresponding application and at least one classification rule associated with the corresponding application; and

mapping each transport service to a packet delivery service, wherein each packet is stored in a queue that is mapped to the packet delivery service associated with the packet, and is assigned a service weight, and each packet is scheduled for transmission based on the mapping of the queue to the associated packet delivery service and the assigned service weight.

68. (New) The method according to Claim 67, wherein the classifying step comprises:

determining the application associated with each packet based upon header information of the packet, wherein the header information includes at least one of source address, destination address, source port, destination port, and type of service information.

69. (New) The method according to Claim 67, wherein each application exhibits at least one of a constant traffic pattern, bursty traffic pattern, and a combination thereof, and the at least one classification rule associated with each application being predefined according to the traffic pattern of the application.

70. (New) The method according to Claim 69, wherein the transport services include a constant rate service for supporting the constant rate traffic, a constant rate with burst service for supporting the combination of the constant traffic and the bursty traffic, a priority burst service for supporting the bursty traffic, and a low volume service for supporting the bursty traffic that is low in volume and requires low latency through the satellite communications network.

71. (New) The method according to Claim 69, wherein the packet delivery services include rate access for establishing a constant rate communication channel, volume access for establishing a bandwidth-on-demand communication channel, and contention access for establishing a contention communication channel.

72. (New) The method according to Claim 71, wherein for each packet classified to the constant rate service, the method further comprising:
determining whether the packet exceeds a predetermined committed information rate (CIR);
selectively dropping the packet based upon the determining step; and
utilizing the rate access packet delivery service to forward the packets.

73. (New) The method according to Claim 71, wherein for each packet classified to the constant rate with burst transport service, the method further comprising:

- determining whether the packet is below a predetermined committed information rate (CIR), as measured by a leaky bucket profile;

- utilizing the volume access packet delivery service to forward the packet upon determining that the packet is above the CIR; and

- utilizing the rate access packet delivery service to forward the packet upon determining that the packet is at or below the CIR.

74. (New) The method according to Claim 71, wherein for each packet classified to the priority burst transport service, the method further comprising:

- determining whether an arrival rate exceeds a threshold;

- utilizing the volume access packet delivery service to forward the packet if the determined arrival rate exceeds the threshold; and

- utilizing the contention access packet delivery service to forward the packet if the determined arrival rate does not exceed the threshold.

75. (New) The method according to Claim 71, wherein for each packet classified to the low volume transport service, the method further comprising:

- utilizing the contention access packet delivery service to forward the packet.

76. (Original) The method according to Claim 67, wherein the classifying step comprises:

- specifying a default transport service for the one transport service.

77. (New) The apparatus according to Claim 67, wherein the depth of each queue is dynamically configurable.

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78. (New) The apparatus according to Claim 67, wherein an order of precedence in which the classification rules are applied is dynamically configurable.